FIG. 1A

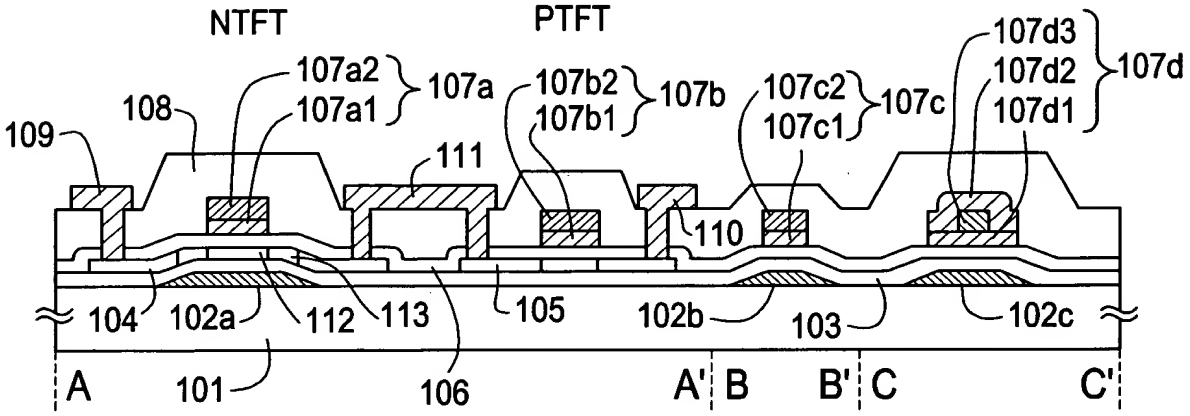

NTFT
PTFT
107a2
107a1
107a
107b2
107b1
107b
107c2
107c1
107c
107d3
107d2
107d1
107d
108
109
111
110
104
102a
112
113
105
102b
103
102c
A
101
106
A'
B
B'
C
C'

FIG. 1B

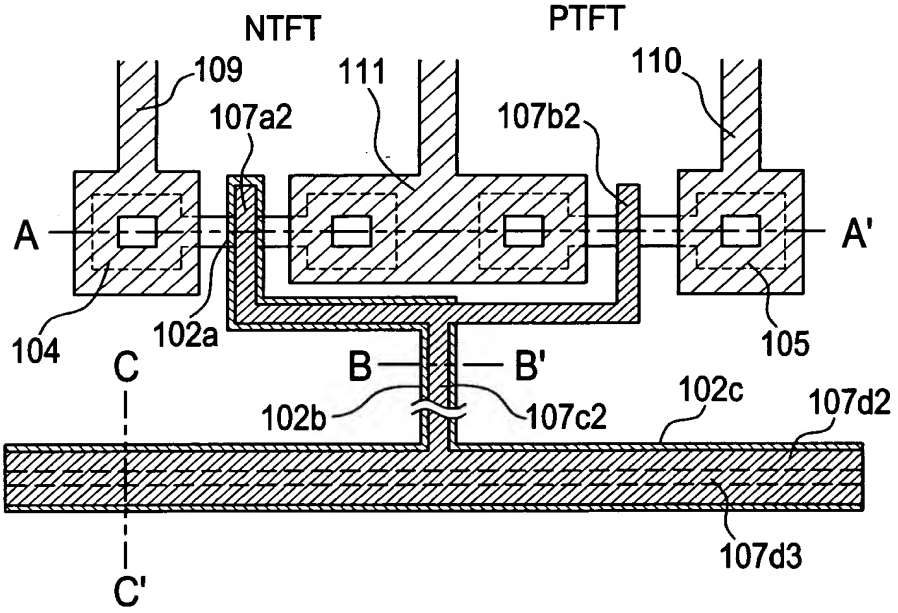

NTFT
PTFT
109
111
110
107a2
107b2
A
A'
104
102a
105
C
B
B'
102b
107c2
102c
107d2
107d3
C'

FIG. 2A

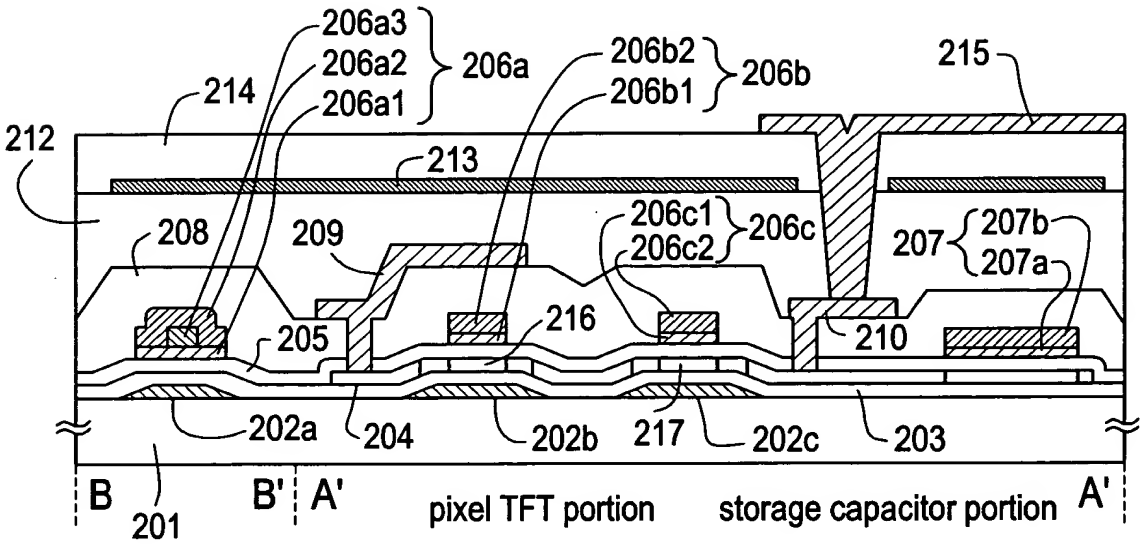

206a3
206a2
206a1
206a
214
206b2
206b1
206b
215
212
213
208
209
206c1
206c2
206c
207
207b
207a
205
216
210
202a
204
202b
217
202c
203
B
201
B'
A'
pixel TFT portion
storage capacitor portion
A'

FIG. 2B

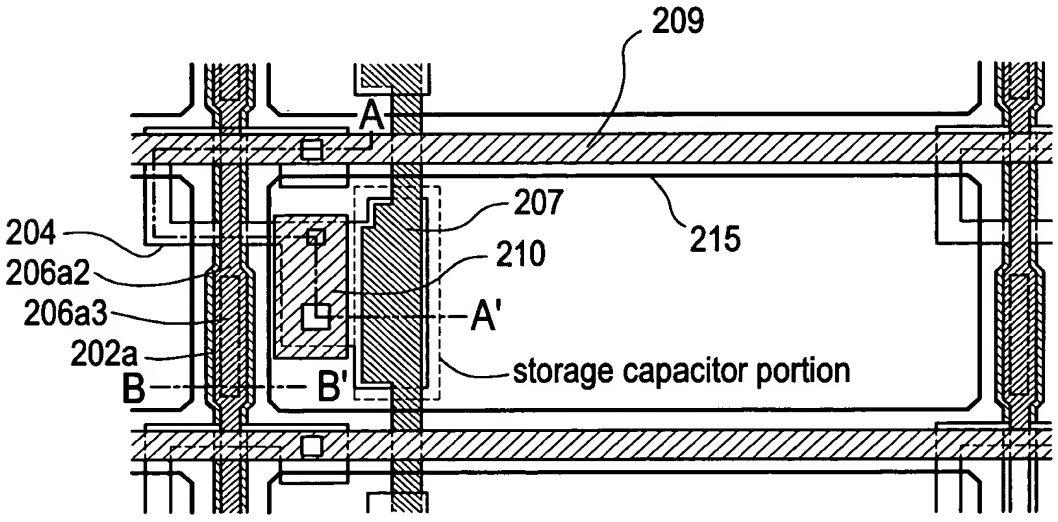

209
A
207
215
204
210
206a2
206a3
A'
202a
storage capacitor portion
B
B'

FIG. 3A

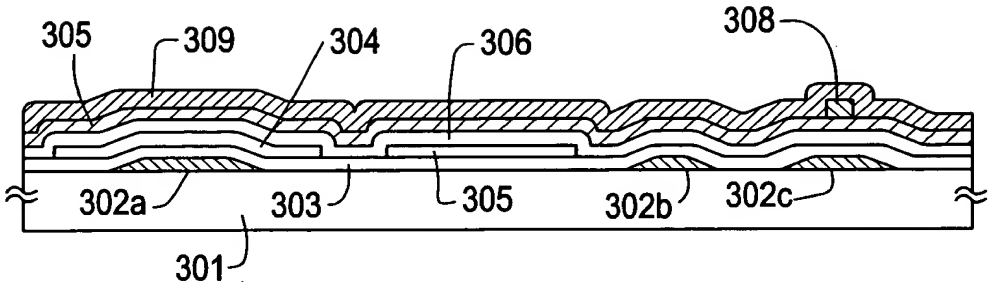


FIG. 3B

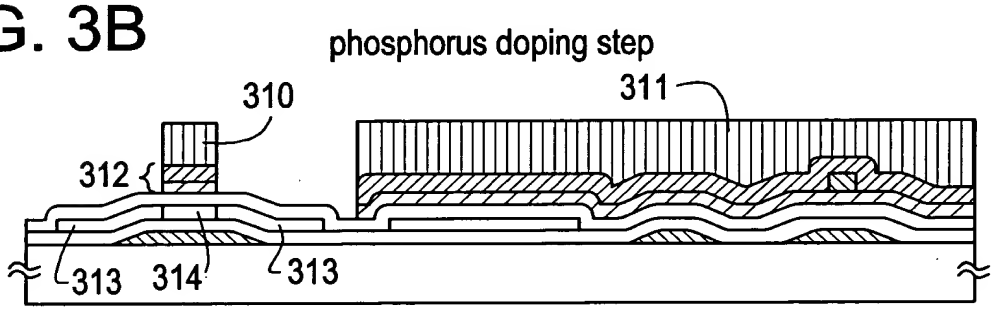


FIG. 3C

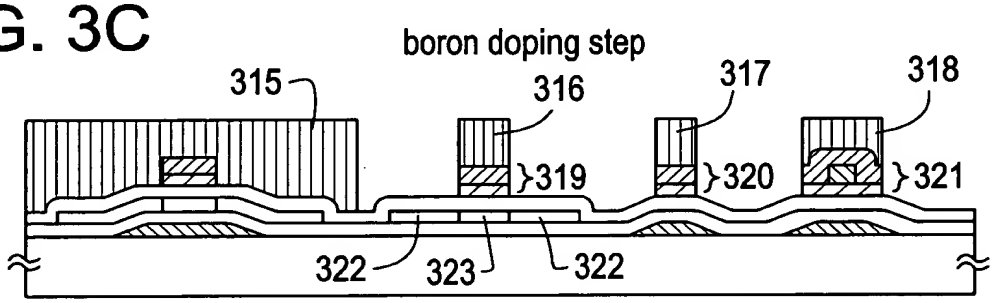


FIG. 3D

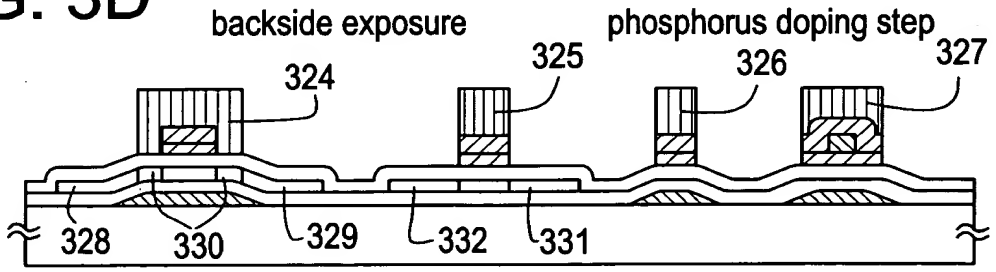


FIG. 3E

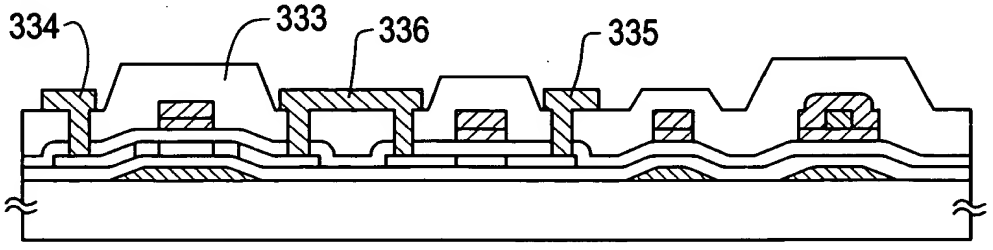


FIG. 4A

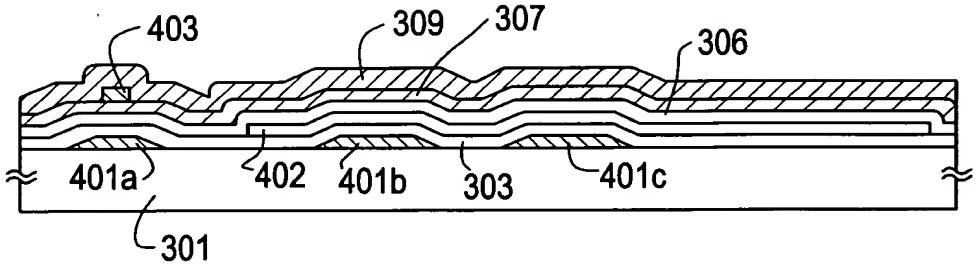


FIG. 4B

phosphorus doping step

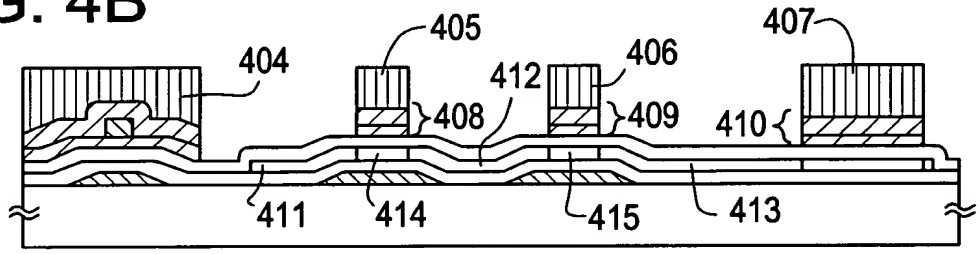


FIG. 4C

boron doping step

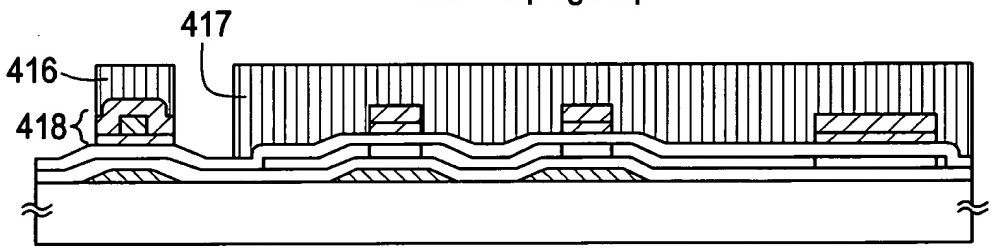


FIG. 4D

backside exposure

phosphorus doping step

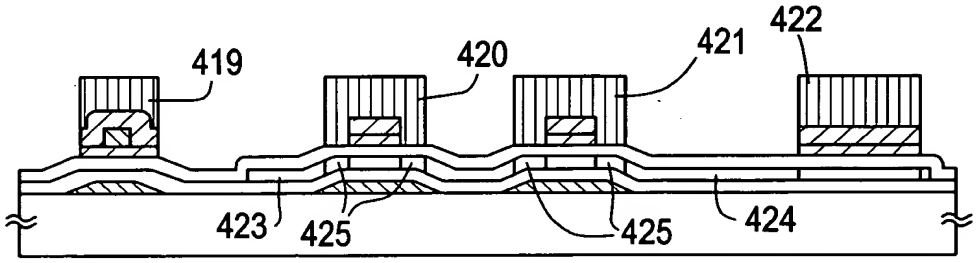


FIG. 4E

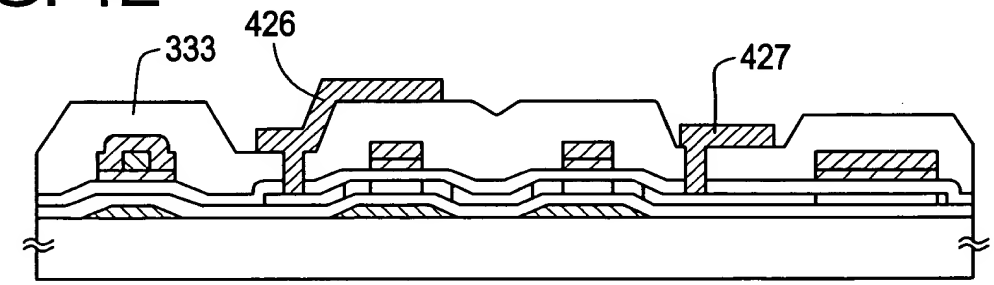


FIG. 5A

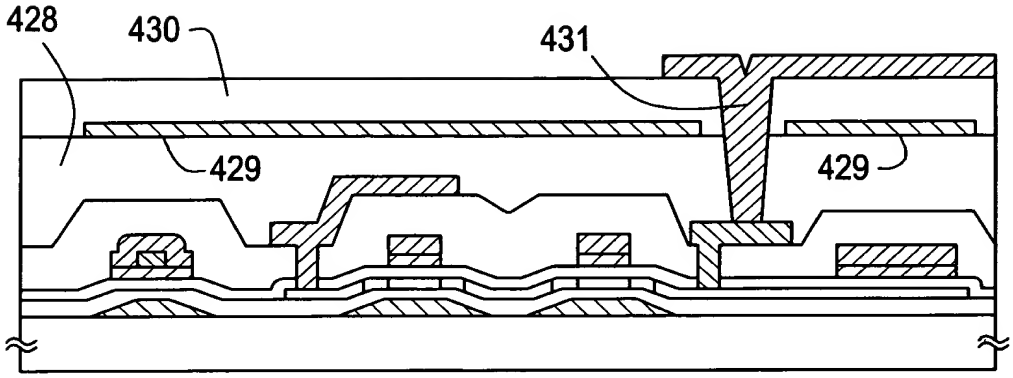


FIG. 5B

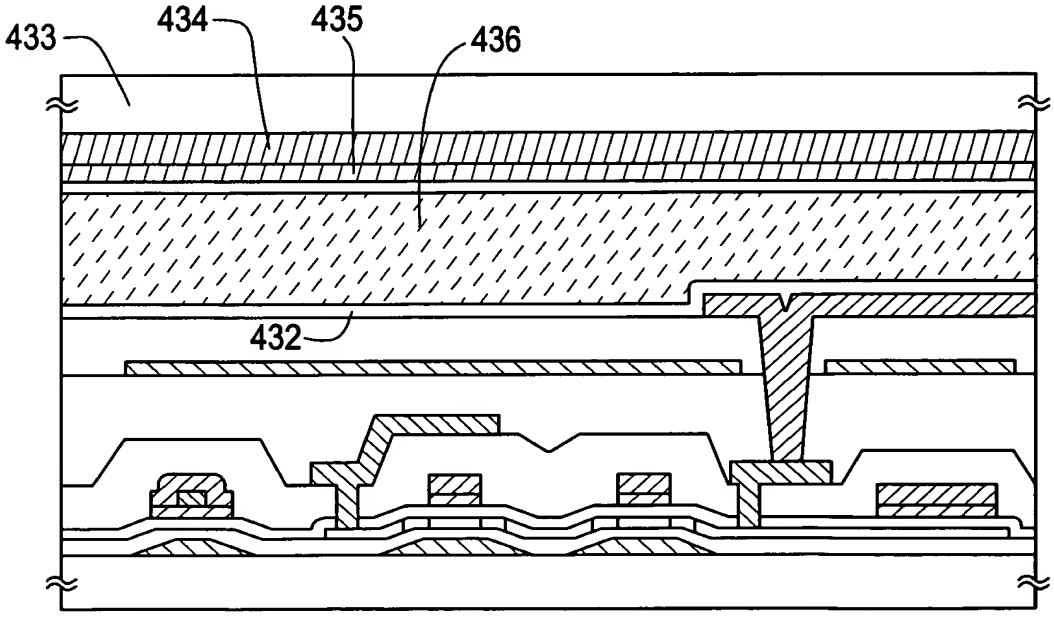


FIG. 6

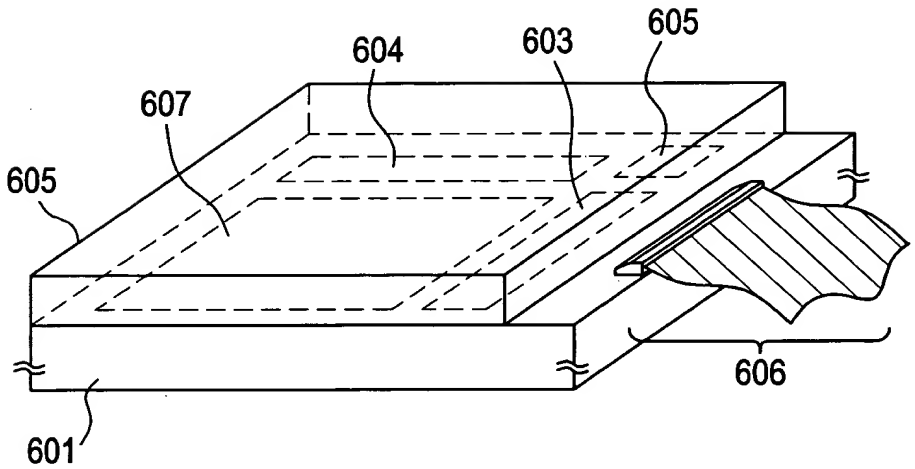

604
603
605
607
605
606
601

FIG. 7

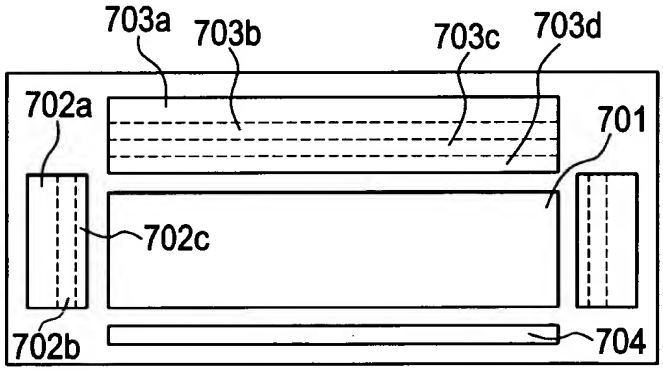

703a
703b
703c
703d
702a
701
702c
702b
704

FIG. 8A

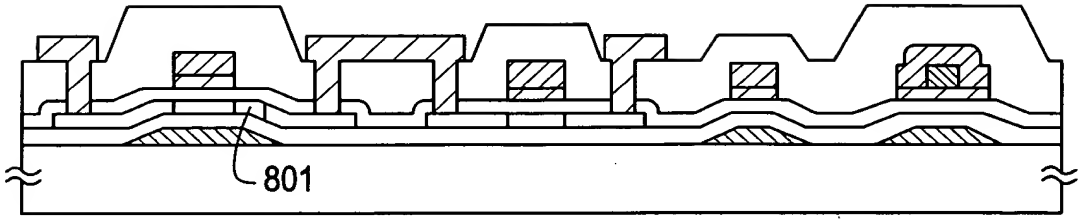


FIG. 8B

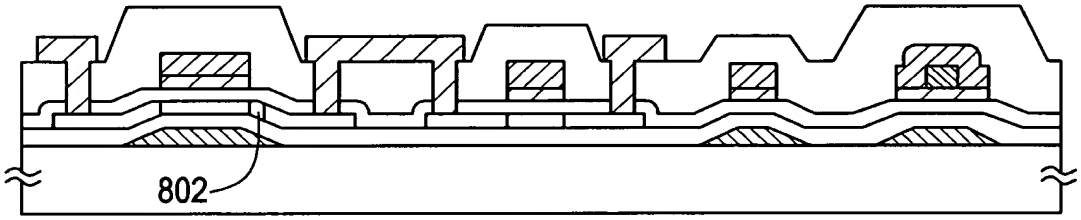


FIG. 8C

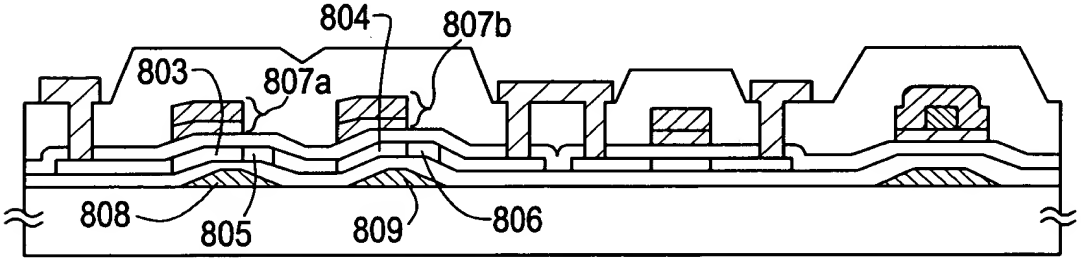


FIG. 8D

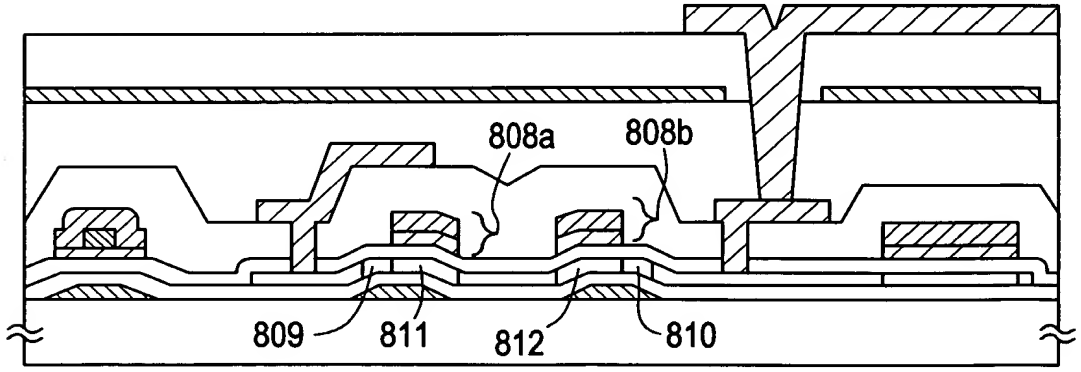
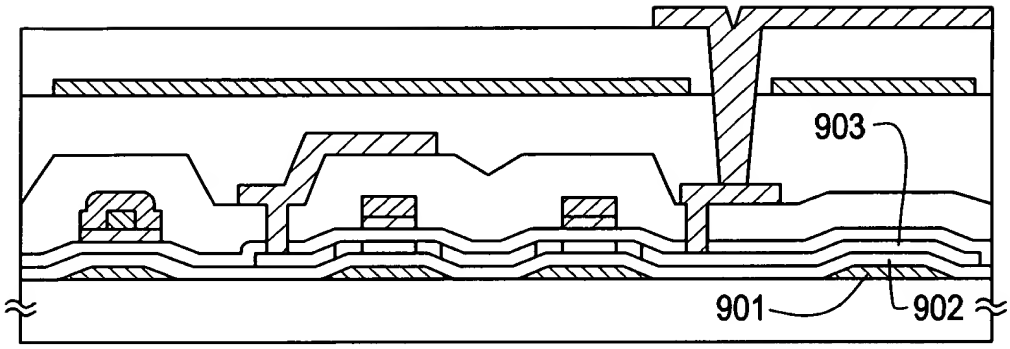
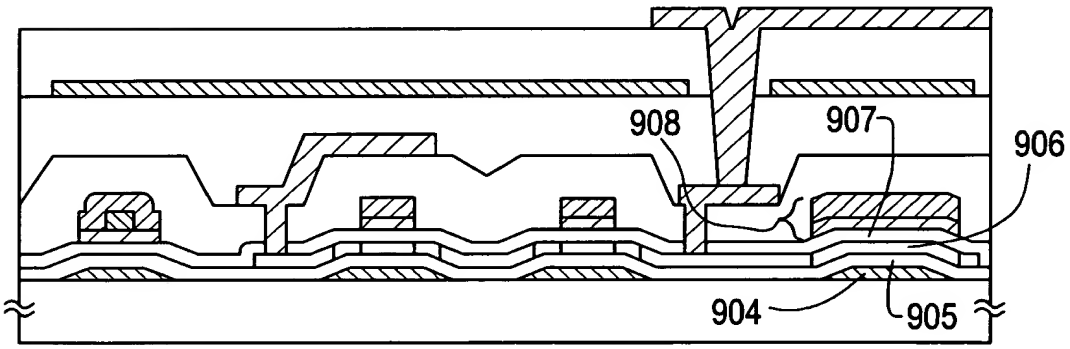


FIG. 9A



pixel TFT portion storage capacitor portion

FIG. 9B



pixel TFT portion storage capacitor portion

FIG. 10A

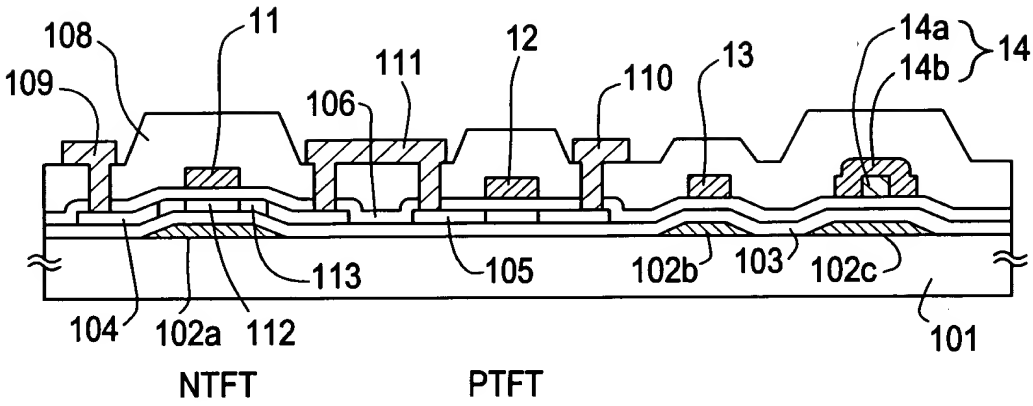


FIG. 10B

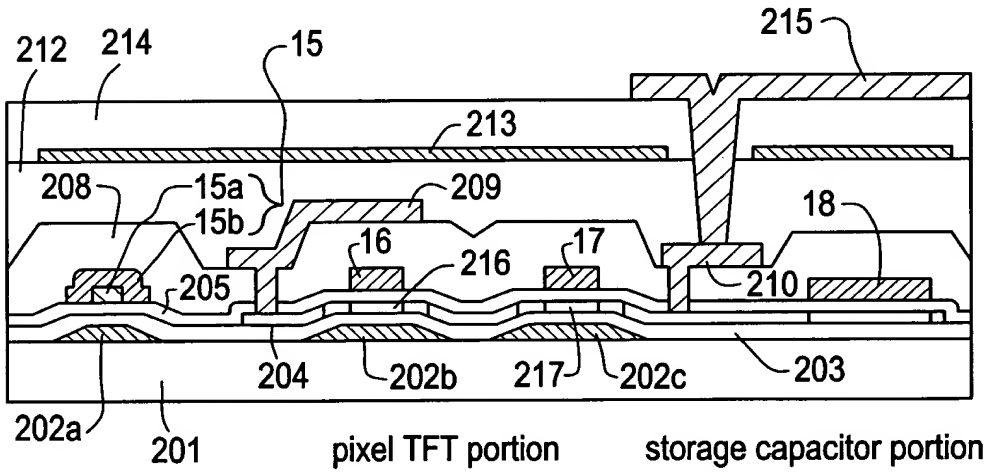


FIG. 11A

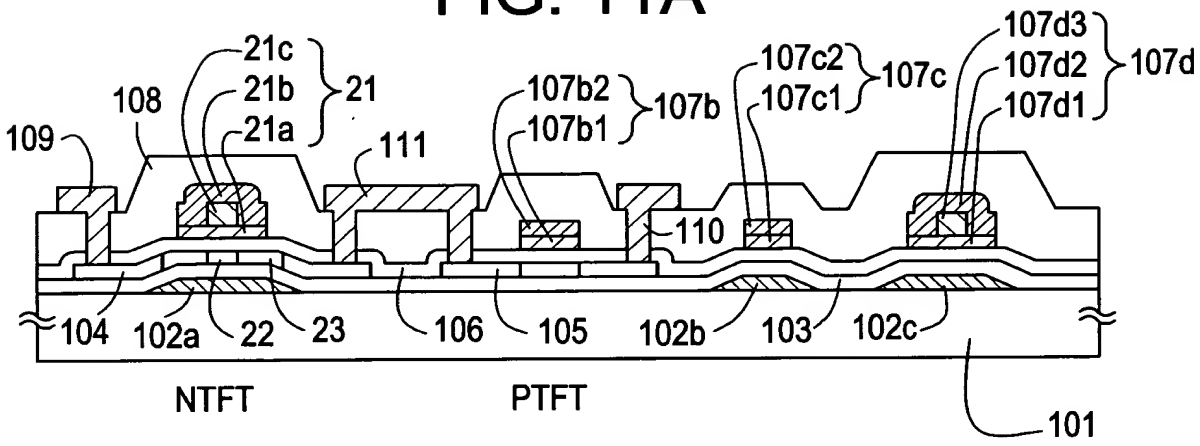


FIG. 11B

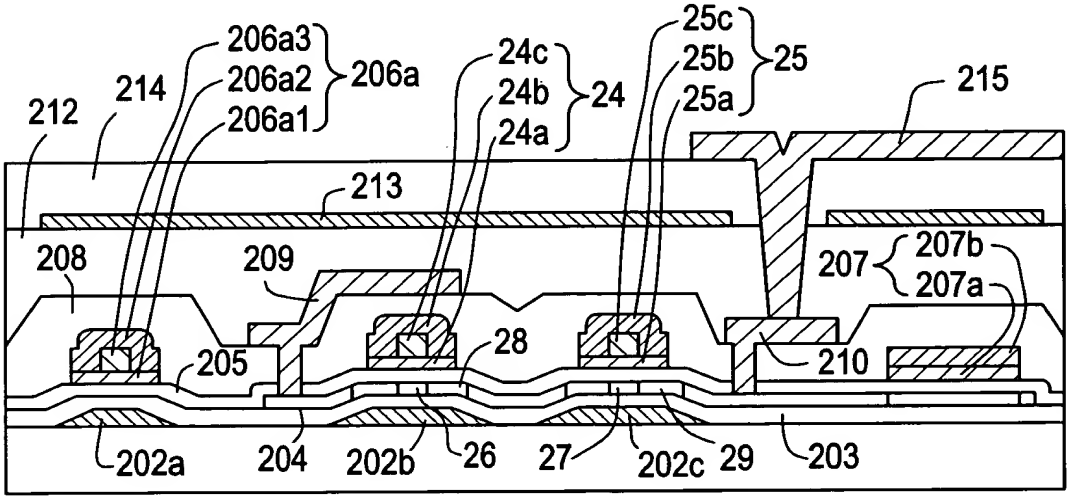


FIG. 12A

gettering step by phosphorus

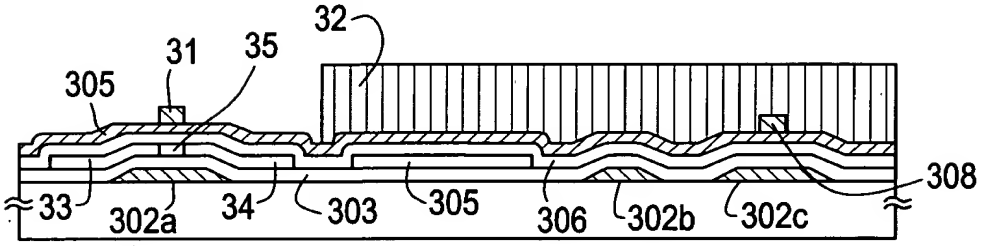


FIG. 12B

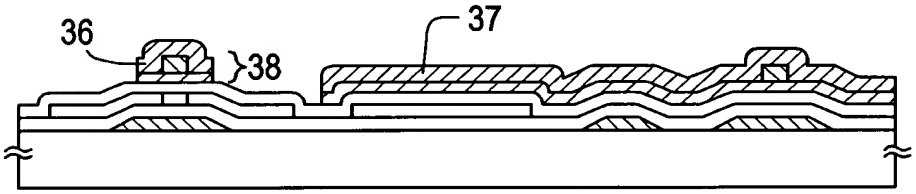


FIG. 12C

boron doping step

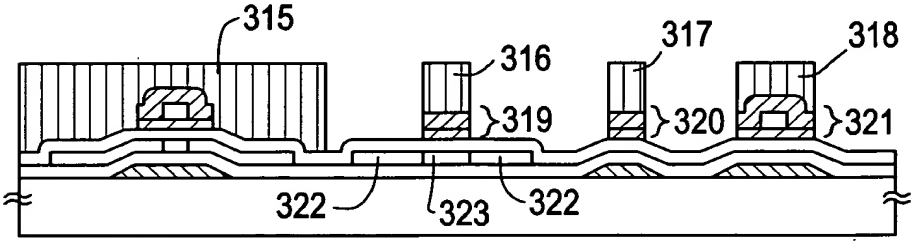


FIG. 12D

back side exposure step phosphorus doping step

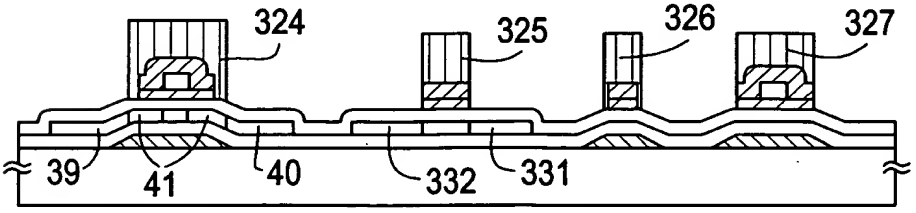


FIG. 13

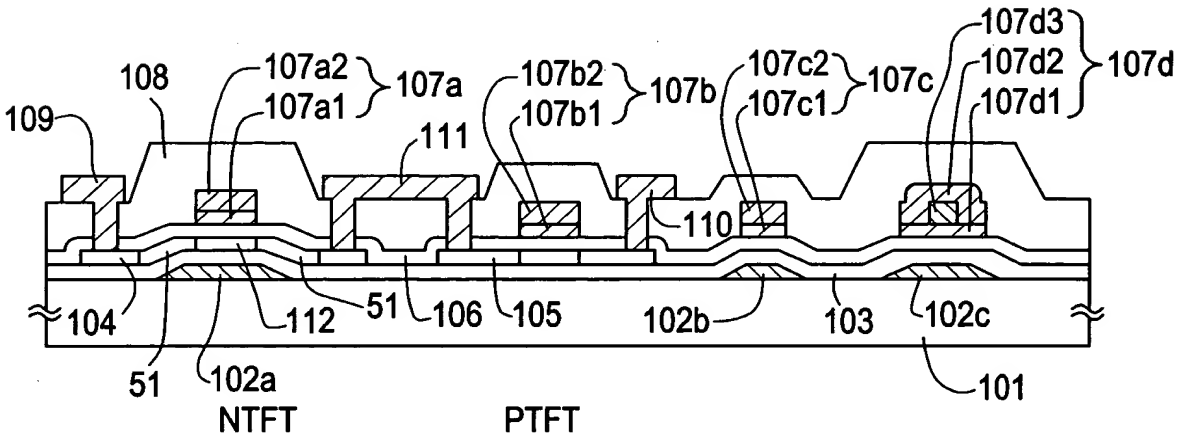


FIG. 14A

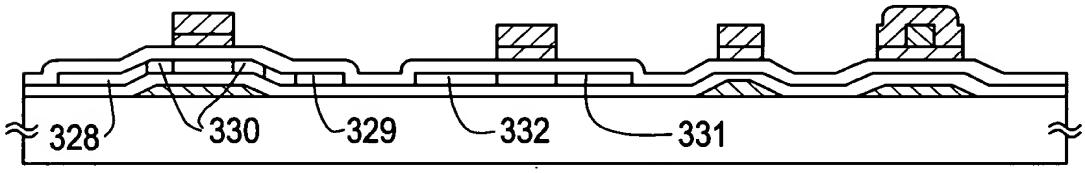


FIG. 14B

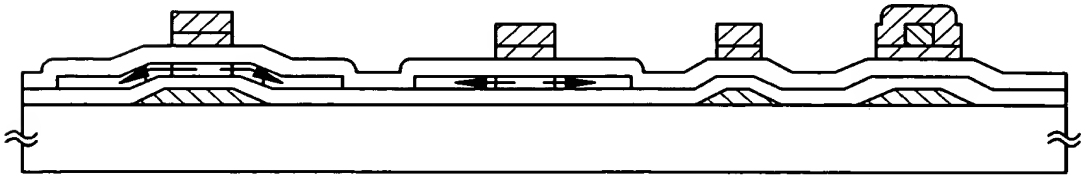


FIG. 15A

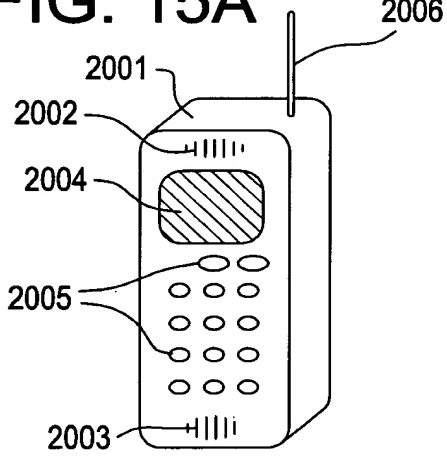


FIG. 15B

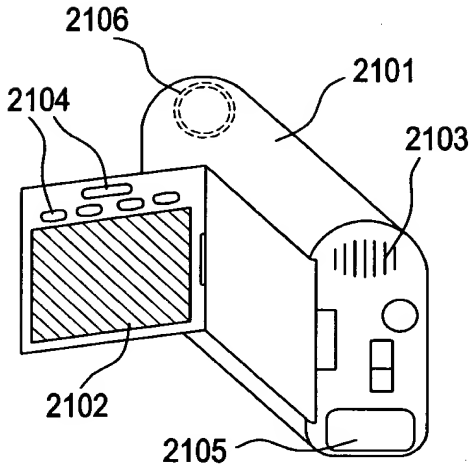


FIG. 15C

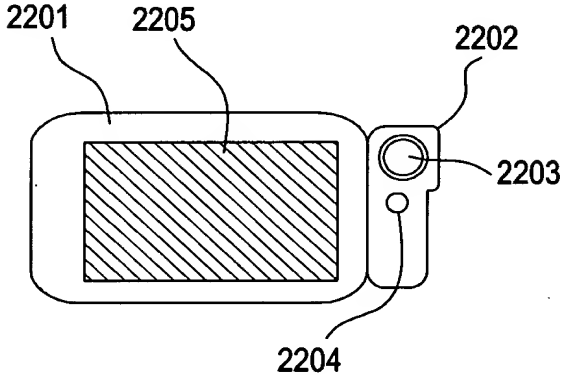


FIG. 15D

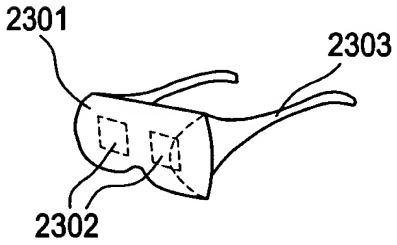


FIG. 15E

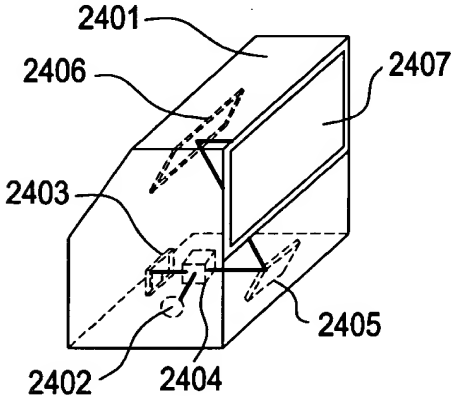


FIG. 15F